

## Mortality in Silver Bow County and Montana, 1979-88 through 1999-08

Mortality rates cannot be computed at less than the county level because detailed population data are available only at the county level. Mortality was computed for 10-year intervals to achieve adequate numbers of events in Silver Bow County to produce statistically reliable estimates of rates.

All rates were age-adjusted to the 2000 Standard Reference Population and expressed per 100,000.<sup>1</sup> Comparisons between Silver Bow County and the rest of Montana were based on 95% Confidence Intervals computed by the Poisson method.<sup>2</sup>

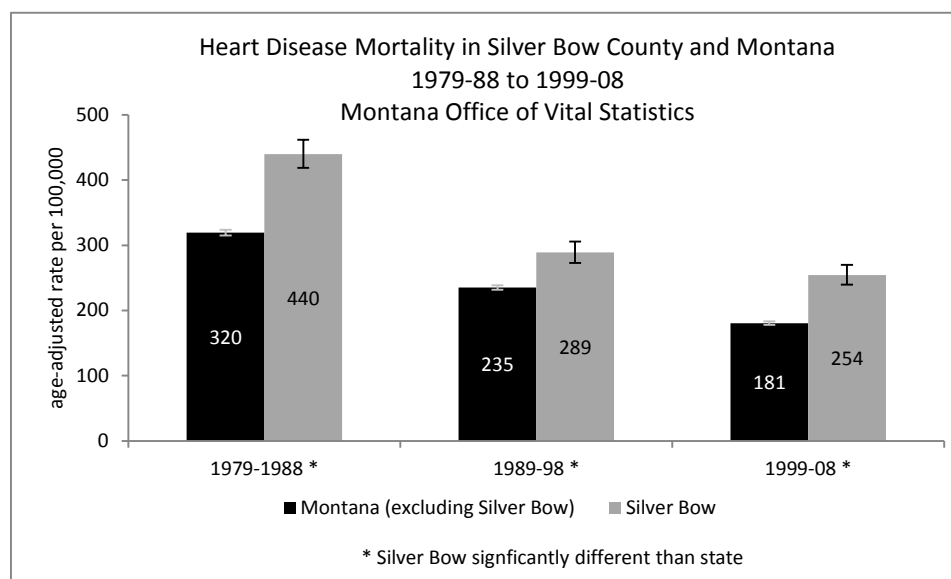
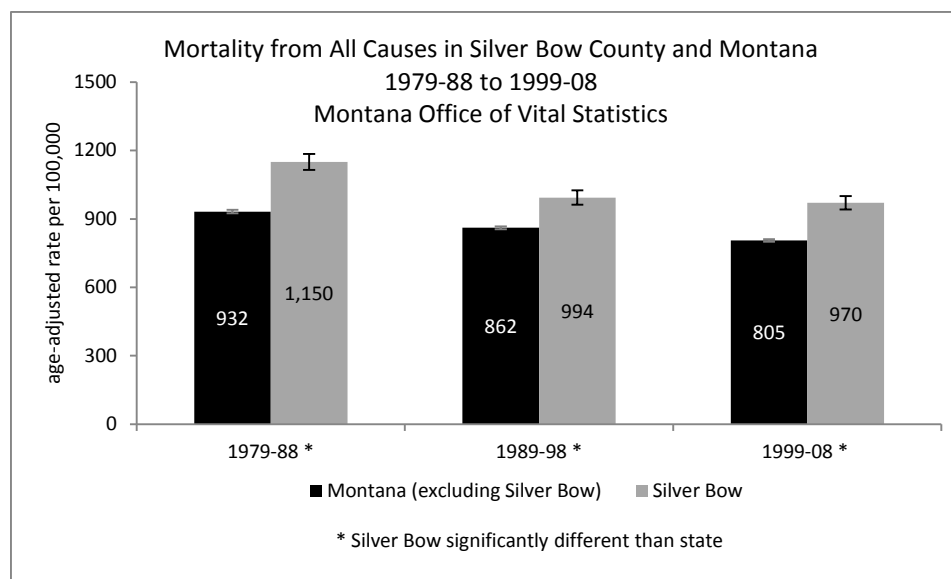
Mortality from all causes combined was greater in Silver Bow County than in the rest of the state for all three time intervals (23% higher in 1979-88, 15% higher in 1989-98, and 21% higher in 1999-08).<sup>3</sup>

The greatest excess mortality in Silver Bow County was attributable to heart disease. Heart disease mortality was 38% higher in Silver Bow County than in the rest of Montana in 1979-88, 23% higher in 1989-98, and 41% higher in 1999-08. The decline in mortality from heart disease after 1979-88 is especially dramatic in Silver Bow County; there was a similar but less dramatic decline statewide.

<sup>1</sup> Klein RJ, Schoenborn CA. Age adjustment using the 2000 projected U.S. population. *Healthy People Statistical Notes*, no. 20. Hyattsville, MD: NCHS. January 2001.

<sup>2</sup> Fay MP, Feuer EJ. 1997. *Statistics in Medicine*, 16:791-801.

<sup>3</sup> Transition from ICD-9 to ICD-10 occurred in 1999; however, this had little effect on classification of deaths from heart disease, respiratory disease, or cancer.



The second greatest excess mortality in Silver Bow County was due to respiratory disease (excluding lung cancer). Respiratory disease mortality was 28% higher in Silver Bow County than in the rest of Montana in 1979-88, 16% higher in 1989-98, and 27% higher in 1999-08.

There was no excess cancer mortality in Silver Bow County relative to the rest of Montana in 1979-88 or 1989-98. There was a modest but statistically significant 13% excess in Silver Bow County in 1999-09.

It is impossible to attribute any mortality differences between Silver Bow County and the rest of Montana to any specific causes or exposures. Death certificates have little information on important risk factors such as smoking and occupational, behavioral, and lifestyle factors that are the primary risk factors for heart disease, respiratory disease, and many kinds of cancer. Smoking is the single most common risk factor for death from heart disease, respiratory disease, and many kinds of cancer.

Differences in mortality between Silver Bow County and the rest of Montana are based on the *place of residence at the time of death*. People may have lived elsewhere for substantial portions of their lives and may have been exposed to risk factors in other locations. In addition, healthy people may leave to find work elsewhere.

**Finally, mortality is affected by access to health care (primary prevention, secondary prevention, acute care, and long term care). Some communities or segments of communities have less access to care and are therefore have higher mortality, regardless of the incidence of many diseases. The best measure of the health effects of an environment is therefore disease *incidence*.**

